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# PLCS Liaison Roles

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## Revision History

Version	Date	Distribution	Purpose and comments
0.1	2 February 2000	NKS, Nils Sandmark	For review before release
1.0	15 February 2000	ISO/TC184/SC4	For review by affected parties

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## PLCS Liaison Roles

### 1. Document Status

This document is a first issue for release to ISO/TC184/SC4 for review.

### 2. Management Summary

This document defines the role and initial tasking for PLCS Liaison Points with other SC4 standardisation projects. It is written to define the planned work in this area.

### 3. Common Liaison Requirements

PLCS is seeking to accelerate the development of information standards that can help extended enterprises manage product and support information over the lifetime of major products. These standards will be developed as an extension to ISO 10303 (STEP). They will also have important relationships to other standards within the TC184/SC4 family (notably ISO 15926 and ISO 13584 PLib) and beyond.


There are three main reasons why PLCS, Inc. should allocate resources to liaison activities:

- PLCS requires, and is seeking to promote, interoperability between STEP and related standards
- Some other SC4 projects have developed solutions of direct relevance to PLCS
- Where common requirements exist, joint development activities may save time and money.

### 4. Common Liaison Tasks

The following common activities are expected to apply to all PLCS Liaison Points:

- Establish and maintain appropriate contact points with the related activity
- Gain a sufficient understanding of the related standard and/or standard development program to identify potential areas for co-operation and/or for re-use by PLCS.
- Develop and document an agreement, with the related activity, on what co-operation is intended and how it will be organised and managed.
- Provide reports to the PLCS PM and the PLCS Board on the achievements and issues from the liaison
- Develop specific proposals, with man-hour and timescale estimates, for further liaison tasks, either jointly or by PLCS.

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- To act as a PLCS ambassador to the related community, building support for PLCS products both as a standard future implementations.

## 5. Liaison Targets

The following areas have been identified as potentially requiring a nominated PLCS Liaison Point. Where appropriate, initial Task Statements for this work are included as Appendices.

### 5.1 “CM/PDM Core”

The term “CM/PDM Core” is here used to refer to the full range of STEP activities affecting product structure and change management activities. These include:

- AP 203, plus extension
- AP214 (especially CC6) and AP212 (for networking/interface management)
- The PDM Schema and Usage Guide
- The STEP Modularisation Activities (Architecture development and PDM Module development)
- AP232
- AP208


This area is so fundamental to PLCS that it will be the primary focus of effort for the early Data Modelling work by PLCS. This will be led by Nigel Shaw. Additional resources are available from ATI (Rogerio Barra, a leading author of the PDM Modules) and from DNV (Jochen Hanisch). Although clearly involving liaison aspects the work will be managed and funded as part of PLCS Data Modelling, unless specific additional tasks are required.

### 5.2 AP 233 Systems Engineering

AP233 is a new application protocol, now approaching a first Committee Draft. It is seeking to establish a capability to exchange complex requirement statements between different system engineering tools. It is based on an earlier project, funded by the European Commission (SEDRES). A second project that will continue this work (SEDRES 2) started in January 2000.

The AP233 developers are mainly from the Aerospace community. BAE SYSTEMS, Alenia, Aerospatiale-Matra Lanceurs; Saab Aerospace, Daimler-Chrysler Aerospace and NASA are active participants. This community has established a formal liaison with INCOSE – the US based International Council on Systems Engineers (Dave Oliver).

The AP233 project team are already well aware of PLCS and are keen to co-operate to the extent this does not disrupt their own plans. Key staff, including the project leader, Sylvain Barbeau of Aerospatiale, and Harold Frish of NASA, have met jointly with the PLCS community at the last four or five STEP meetings as part of WG3/Team 8.

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The main areas for potential co-operation with AP233 are:

- Developing common terminology (jointly with AP209 and others).
- Developing interoperability between AP233 and PLCS to establish a capability to import or export product requirements and performance definitions,
- Ensuring appropriate linkage or mapping between the requirement information (imported as an AP233 file) and the PLCS product structures.
- Ensuring (from a PLCS viewpoint) that AP233 has a full capability to define and exchange requirements relating to supportability.

The point has now been reached where some dedicated PLCS resource is needed to assess AP233 in detail, and develop specific work plans in the above areas. An initial Task Statement is attached as Appendix 1. Inside PLCS, this work is most closely linked to the Support Engineering activity.

### **5.3 Process Plant and “Oil and Gas”**


The Oil and Gas industries, and the related Process Plant community are major long-term investors in STEP and have developed both Application Protocols (AP221, AP227) and an additional standard for life cycle integration of data for oil platforms (ISO 15926 – POSC/Caesar). Progressive convergence of the various groupings in this area has led to the creation of an overarching European body to co-ordinate efforts in this field – EPISTLE, the European Process Industry STEP Liaison Executive. A wide global grouping (PIEBASE) has also been established but is less involved in technical work. EPISTLE have developed an approach to data modelling that differs from STEP in some important features, notably an improved capability to add technical data progressively to the standard in the form of “Reference Data Libraries (RDLs)”.

Nils Sandmark of DNV has extensive knowledge of this area. A meeting was held with Nils during the SC4 meeting in New Orleans to outline potential work areas.

The main areas for potential co-operation with EPISTLE are:

- Developing common Reference Data Libraries
- Common terminology and definitions
- Shared experience and lessons learned
- Understanding the potential for synergy in implementation (software)

The Oil and Gas communities have several years experience in the practical a two or three year lead over Defence/Aerospace in the practical application of life cycle information management techniques. PLCS has much to gain from interaction with this community. An initial tasking statement for the EPISTLE Liaison Point is attached.

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The EPISTLE work has relevance across PLCS. The closest link in the short term is with the Data Modelling area.

#### **5.4 Parts Library**

ISO 13584 (PLib) provides a set of tools for publishing parts catalogues in an open environment. Based initially on work by France, PLib has recently attracted significant interest and investment from Japan and elsewhere, and a range of compatible software products is now available. Industrial take up is limited, but this could change rapidly. PLib provides an elegant framework for constructing a parts catalogue, but the real power of the standard cannot be realised without linking PLib to standardised ways of defining properties. This has been recognised by the developers and links have been formed with the IEC on this topic.

The relevance of PLib to PLCS is unclear. It could have major value in the Inventory Management area, but specific areas for co-operation have yet to emerge.

Tim King of LSC has offered to act as the PLCS Liaison Point for PLib. He is well qualified to do this. An initial tasking statement has been issued (attached) to cover his activities for PLCS in Melbourne.

#### **5.5 Shipbuilding APs**


The shipbuilding community were early investors in STEP, following work by EMSA (the European Marine STEP Association) and others. Over time, this activity has diverged slightly from the STEP “CM/PDM Core”. The degree of industrial take up has also been limited. That said, some useful work has been done which is likely to be of particular interest to the PLCS sponsors with links to this industry (DNV, BAE Systems, Defence players).

At the time of writing (Feb 2000) Nigel Newling (UK MoD) is working with both communities to explore opportunities for convergence. No further action is recommended at this time.

#### **5.6 Transaction Standards & Naming Conventions**

From the outset PLCS has been focused on the long term, relatively stable core of product and support data that derives from the product and support design (i.e. that will have a potential life of several years). It is however clear that businesses also have a requirement to merge this “PLCS” data with the more volatile information linked to business transactions – order, request/provide, move, hasten, confirm receipt, invoice, pay etc. (i.e. to import and extract technical data from within transaction messages).

For the defence/aerospace communities, the two dominant public transaction standards are EDIFACT and ANSI X12. There is, however, much ongoing commercial activity to develop alternative competing standards linked to the web (e.g. OAGIS and RosettaNet).

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It is appropriate as part of the requirements gathering stage of PLCS to assess the necessary extent of interaction with transaction standards.

This activity also is linked to the need to establish a whole series of naming conventions e.g. for properties (IEC links?); for organisations (e.g. CAGE Code, Duns Number etc.) and for locations (may link to GIS Systems).

At this time the PLCS Liaison requirement is to develop a better understanding of the current activities and developments in this area and their likely relevance to Co-Members business activities. This will need to be followed by the clarification of the “PLCS” requirements for:

- Interfacing and inter-operability with selected transaction standards.
- Adoption and possible extension of existing naming conventions

The latter has some overlap with EPISTLE Reference Data Libraries.

The obvious lead area for this work within PLCS is the Inventory Management AAM WG who will be invited to add this to their agenda.


## 6. Conclusions

The following conclusions can be reached:

1. PLCS will not succeed if it operates in isolation. Liaison activities are an integral part of the program and are shown in the TDP.
2. Significant time and effort has already been invested to develop contacts and identify issues
3. Liaison work is already underway for the CM/PDM Core (although this needs to accelerate), for PLib and for the Shipbuilding APs.
4. An urgent requirement exists to appoint PLCS Liaison Points for Systems Engineering and EPISTLE.
5. Further significant liaison effort will be needed for Transactions and Naming Conventions. Further development of this area should be left to the Inventory Management AAM WG.

## 7. Acknowledgements

Acknowledgment is due to the considerable investment of resources by the NATO CALS Organisation in developing the understanding and the relationships from which PLCS liaison activities can grow, through their active participation at previous SC4 meetings.

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## 8. Appendices:

### Appendix A.



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17 February, 2000


PLCS reference: PLCS 27

### PLCS Liaison Role for AP233: WBS 2.3/Task 1

(NOTE – Steve Topping of BAE Systems is considering this task)

1. Establish contact and develop liaison agreement:
  - a. Contact AP233 program manager (Sylvain Barbeau  
[sylvain.barbeau@lanceurs.aeromatra.com](mailto:sylvain.barbeau@lanceurs.aeromatra.com))
  - b. Develop and agree a PLCS/AP233 Liaison Agreement to define the intended nature of the co-operation between PLCS and AP233.
  - c. Identify and establish a working relationship with the AP233 liaison contact point(s).
2. Background reading:
  - a. Establish current status of AP233, as it affects PLCS by obtaining and reading relevant background documents including the AAM and Requirement Document.
  - b. Provide a short report (2 –pages?) on AP233 status and issues for the PLCS Top Level, CM and SE AAM Working Groups.
3. Draft Task Statements for follow-up work, noting that the main areas for potential co-operation with AP233 are:
  - o Developing common terminology (jointly with AP209 and others).




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- Developing interoperability between AP233 and PLCS to establish a capability to import or export product performance definitions,
  - Ensuring appropriate linkage between decomposition of requirements (assumed to be imported by “PLCS” as an AP233 file) and the PLCS product structures.
  - Ensuring (from a PLCS viewpoint) that AP233 has a full capability to define and exchange requirements relating to supportability.
4. 70 hours are released for this task against WBS Item 2.3/Task 1.
  5. The task is to be completed by 17 March.

John Dunford

Program Manager, PLCS, Inc.

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17 February, 2000

PLCS reference: PLCS 28

## Manpower Planning/Task 2


(Note – Person to undertake this task is being sought by PLCS Board Members)

1. Background reading:
  - a. Develop broad understanding of EPISTLE and related SC4 activities
  - b. Establish working relationship with EPISTLE contact point, nominated by Nils Sandsmark ([nils.sandsmark@dnv.com](mailto:nils.sandsmark@dnv.com))
2. Identify overlap in business requirements
  - a. Using PLCS AAMs, PLCS STR and equivalent material from EPISTLE work with the EPISTLE contact point to identify where the two communities have common problems and business approaches and where there are differences. The work should also focus on the POSC /Caesar experience but should also consider the Japanese work on Plant Data Warehouse and Generic Product Model.
  - b. Develop a presentation for the PLCS Board to summarise findings
3. Arrange and participate in a 2-day workshop on Reference Data Libraries (to be lead by PLCS STEP Expert) to identify opportunities for developing a common approach to RDLs, from both business and data modelling perspective.
4. To arrange and attend a 1-day meeting between PM PLCS and Nils Sandsmark to review the PLCS and EPISTLE development programs.
5. To develop draft Task Statements for any follow-up liaison tasks
6. 105 hours are released for this task against WBS Item 2.3/Task 2.
7. The task is to be completed by 31 March.

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### Appendix C



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PLCS reference:   PLCS 29

### Manpower Planning

NOTE: Tim King of LSC will perform this task.

1. Update WG2 at the ISO/TC184/SC4 meeting in Melbourne on progress with PLCS (Note travel costs to Melbourne will be funded from other sources).
2. Represent PLCS interests during WG2 meetings in Melbourne
3. Produce a report on the potential significance of Plib for PLCS, with recommendations on follow-up tasks.
4. 35 hours are released for this task against WBS Item 2.3/Task 3 (i.e. 2 days for attending meetings, 3 days for the report).
5. The task is to be completed by 29 February 2000.

John Dunford

Program Manager, PLCS, Inc.